

**ATTACHMENT G - Stormwater Associated with Industrial Activities**

1. Table of drainage areas and amount of impervious area in each from application
2. Description of drainage areas from permit application and permittee explanation of why no discharge data from outfall 009 taken from application
3. List of Material Stored that may be Exposed to Storm Water from application
4. List of Herbicides & Pesticides Used from application
5. Summary of storm water data from Application form 2F
6. Summary of storm water data from annual DMR data
7. Industrial Storm Water Benchmark Values from 2009 Fact Sheet for reissuance of General VPDES Permit for Stormwater Associated with Industrial Activity.
8. Applicability of Industrial Sectors and industrial sector specific requirements for
  - Paper and Allied Products Manufacturing Facilities.
  - Chemical and Allied Products Manufacturing Facilities.
  - Landfills, Land Application Sites and Open Dumps.
  - Steam Electric Power Generating Facilities, including Coal Handling Areas.
  - Other Industrial Sectors considered for Applicability but not used

**Form 2F Section IV - A Size and Runoff Characteristics of Drainage Areas**

The following table provides estimates of the size of the drainage areas for the various stormwater outfalls.

<u>Drainage Area</u>	<u>Impervious Area (square ft.)</u>	<u>Impervious Area (acres)</u>	<u>Total Area (square ft.)</u>	<u>Total Area (acres)</u>
003	3,452,100	79.25	11,489,500	263.76
004	615,600	14.13	684,720	15.72
005	255,000	5.85	859,000	19.72
006	17,400	0.40	90,170	2.07
007	20,000	0.46	41,780	0.96
008	25,000	0.57	271,850	6.24
009	32,000	0.73	1,350,360	31.00
010	48,000	1.10	17,380,440	399.00
012	64,000	1.47	244,000	5.60
013	50,000	1.15	297,000	6.82
015	<u>19,376</u>	<u>0.44</u>	<u>19,376</u>	<u>0.44</u>
TOTAL	4,598,476	105.55	32,728,196	751.33

## **Items IV C**

### **Stormwater Outfall 003**

The drainage area for Outfall 003 includes the major portions of the facility where stormwater may come into contact with industrial activity. Stormwater collected from sawdust, log, chip, and bark storage are collected in the woodyard lagoons and pumped to the waste treatment plant. Stormwater runoff from the active areas of the landfills is collected and pumped to the waste treatment plant. Portions of the facility susceptible to spills and leaks from industrial equipment are contained within the facility by a river wall. This wall also contains stormwater runoff in these areas so that the water may be treated in the waste treatment plant. Spill containment and clean-up capabilities in the event of a spill are included in the SWPPP.

### **Stormwater Outfall 004**

The drainage area for Outfall 004 includes runoff from portions of landfill haul roads. No. 1 and No. 2 Paper Machine roof tops, the paper mill truck parking lot and portions of the drainage area from the Coal Handling facility. Runoff from these areas would include silt, road dust, and motor vehicle leaks. Runoff may also include materials collected on the rooftops of the paper machines such as paper dust and steam condensate. Runoff from these areas is normally contained in this area and pumped to the waste treatment plant. However, during high rainfall events, the water may be discharged directly to Dunlap Creek. The area included in the drainage area for this outfall includes a number of process tanks which are fully diked to prevent a spill from coming into contact with stormwater. Spill containment and clean-up capabilities in the event of a spill are included in the SWPPP. No treatment of stormwater is performed for this outfall.

### **Stormwater Outfall 005**

The drainage area for Outfall 005 includes stormwater runoff from the hillside east of the woodyard. The stormwater is collected and is conveyed by pipe to the outfall before coming into contact with any of the industrial activities in the area. Spill containment and clean-up capabilities in the event of a spill are included in the SWPPP. A catch basin has been installed to capture some sediment that may enter this outfall. No other treatment of stormwater is performed for this outfall.

### **Stormwater Outfall 006**

The drainage area for Outfall 006 includes a portion of the landfill haul roads and the woodyard road. Wood and sawdust may be stored within this drainage area that could come into contact with stormwater. Stormwater runoff comes into contact with no other industrial activities before discharge to the outfall. Spill containment and clean-up capabilities in the event of a spill are included in the SWPPP. Silt fencing is in place to capture sediment from this area. No other treatment of stormwater is performed for this outfall.

### **Stormwater Outfall 007, 008, 009 010**

The drainage area for these outfalls includes a portion of the landfill haul roads and a portion of the stormwater runoff from the areas surrounding the landfills. Stormwater is diverted from the active sites for the landfills to a collection pond where it is pumped to the Waste Treatment Plant. Sedimentation ponds have been installed for the drainage areas associated with outfalls 009 and 010. Spill containment and clean-up capabilities in the event of a spill are included in the SWPPP. A number of check dams have been installed in ditches conveying stormwater for outfall 007 and 008. In addition, vegetation has been allowed to grow in these ditches to help capture sediment. No other treatment of stormwater is performed for this outfall.

### **Stormwater Outfall 012**

The drainage area for Outfall 012 includes runoff from the employee parking lots and the entrance to the woodyard. Stormwater from this area is collected and piped to the outfall without coming into contact with other industrial activity. Spill containment and clean-up capabilities in the event of a spill are included in the SWPPP. No treatment of stormwater is performed for this outfall.

### **Stormwater Outfall 013**

The drainage area for Outfall 013 includes the hillside north of the recovery area within the mill. The area includes a portion of the mill road. Stormwater is collected in a ditch and then piped to the outfall without coming into contact with other industrial activity. Silt fencing has been installed and vegetation has been allowed to grow in the area to capture and remove sediment. Spill containment and clean-up capabilities in the event of a spill are included in the SWPPP. No other treatment of stormwater is performed for this outfall.

### **Stormwater Outfall 015**

The drainage area for Outfall 015 includes the Short Street Bridge. This bridge is the access point to half of the facility. Truck traffic is routine in the area. Stormwater flows directly from the bridge. Spill containment and clean-up capabilities in the event of a spill are included in the SWPPP. No treatment of stormwater is performed for this outfall.

Outfall 009 serves as an outfall for storm water diverted around the active landfill and certain landfill roadways. A large sedimentation pond currently serves to collect this storm water. Currently, storm water that falls on the landfill is directed to the leachate system and ultimately the waste water treatment plant. At a point in the future, once the landfill is closed, this stormwater will be redirected to the sedimentation pond. However, due to the size of the pond and the relatively small amount of storm water directed to the pond, no discharge from this outfall has occurred for a number of years. As such no storm water samples have been collected. The new boiler project has potential to impact this outfall.

## Form 2F Section IV B Inventory of Exposed Materials

The following is an inventory of the types of materials handled at the site that are **potentially** exposed to precipitation. This inventory includes a narrative description of significant materials that have been handled, treated, stored, or disposed of in a manner to allow exposure to storm water between the time of three years prior to the effective date of the permit and the present, i.e., since February 13, 2004; method and location of on-site storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of three years prior to the effective date of the permit and the present, i.e., since February 13, 2004; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

Since August 5, 1992, coal has been received through a coal unloading system operated by Coal Handling Facility, Inc. and located west of the Boiler House. Coal is received by rail cars and unloaded by a car dumper located off of the CSX main line along Dunlap Creek. The coal is conveyed from the car dumper to two concrete coal silos. Coal may also be received by truck through No. 6 Gate, unloaded at the truck unloading hopper, and conveyed directly to the boiler house coal bunkers. All of the storm water discharges from the coal unloading area are permitted and managed by the operator, Coal Handling Facility, Inc. Storm water runoff from this area discharges through Coal Handling outfalls and through outfall 004 to Dunlap Creek and the Wastewater Treatment Plant to the Jackson River.

**Pulpwood** bark and pulpwood waste used to be stored with sawdust in a pile on the ground near No. 1 Aeration Basin. Since the construction of No. 3 Primary Clarifier in 1997 this pile was relocated on the ground near the bark processor on the Woodyard. The bark and wood waste are loaded into dump trucks by conveyors at the Woodyard and hauled on mill roads to the storage hoppers at the boiler house. Storm water runoff from the bark storage pile and the mill roads between the Woodyard and the storage hoppers drains to a sewer to the Wastewater Treatment Plant.

**Sawdust** is stored in the sawdust storage pile located adjacent to the Contractors' lay down area that is across the low water bridge. Also, a small sawdust pile for emergency use is stored adjacent to the Woodyard lagoons. Sawdust is also received by truck through the Woodyard gate, hauled to this storage pile, dumped onto the pile, loaded into dump trucks by a bucket loader, hauled to the Carbon Plant, and unloaded onto a conveyor. Storm water runoff from the sawdust storage pile and handling activities associated with it would not be discharged through any outfall. Storm water runoff from access roads to the sawdust pile may drain to outfall 006, outfall 007, or outfall 008. Runoff from the small sawdust pile may drain to outfall 006.

**Pulpwood logs** are stored in piles on the ground on the Woodyard. The logs are unloaded from trucks and railcars by fork truck and placed in piles. The logs are later removed from the piles by fork truck and placed on the saw deck. Most of the storm water from the log storage and handling areas, the truck access roads, and the rail spur drains to the Woodyard lagoons and is then pumped to the Wastewater Treatment Plant. Part of the storm water runoff from these areas drains to outfall 006.

**Pulpwood chips** are stored in piles on the ground on the Woodyard. The chips are dumped onto the chip storage piles by the chip stacker, removed from the piles by the chip reclaimer, and transported by conveyor to the Screen House. Chips are also received by truck through the Woodyard gate and dumped onto conveyors on the Woodyard and at the Screen House. Storm water runoff from the chip storage and handling areas and access roads drains to a sewer to the Wastewater Treatment Plant or drains to the Woodyard lagoons and is then pumped to the Wastewater Treatment Plant.

**Spent carbon** used to be stored in earthen impoundments located across the Jackson River from the Woodyard. These impoundments are no longer in use. Most of the storm water is contained within these impoundments, although some runoff may drain to the sedimentation pond associated with outfall 009.

The following materials are disposed of in onsite landfills:

**Wastewater Treatment Plant sludge** is dewatered on screw presses and belt filter presses at the Wastewater Treatment Plant, loaded into dump trucks by conveyor, hauled to MeadWestvaco Landfills on mill roads,

dumped on the ground, mixed with stabilizing fill material by a track loader, and pushed into the active fill area. Storm water runoff from the truck loading area drains to a sewer to the Wastewater Treatment Plant.

Occasionally, some sludge is temporarily stored in piles on the Woodyard whenever the sludge cannot be hauled safely to the landfill. The sludge is stored only in areas of the Woodyard where the storm water runoff drains to the Woodyard lagoons and is then pumped to the Wastewater Treatment Plant. As soon as practicable, the sludge is loaded into dump trucks by a bucket loader and hauled to the landfill for disposal. Other areas include a dedicated dewatering slab used for dewatering wet materials and also at #3 clarifier where all runoff goes to the Wastewater Treatment Plant.

**Pulpwood waste** is loaded into dump trucks by conveyor or bucket loader at the Woodyard, hauled to onsite landfills on mill roads, and disposed of in the active fill area. Storm water runoff from the truck loading areas drains to the Woodyard lagoons and is then pumped to the Wastewater Treatment Plant.

**General refuse** is collected in dumpster buckets and trash hoppers located throughout the mill site. These containers are routinely hauled to onsite landfills on mill roads and emptied in the active fill area.

Trash pan containers located at No. 1 Paper Machine Building and the Paper Storage Building are also routinely hauled to onsite landfills on mill roads and emptied in the active fill area. Trash is also loaded onto trucks and hauled to MeadWestvaco Landfills for disposal.

Storm water runoff from most of the outdoor container areas drains to a sewer to the Wastewater Treatment Plant. Dumpster buckets are also located in the drainage area for outfall 004.

**Bottom ash** from the coal and wood-fired power boilers is discharged into a dump truck inside the Boiler House. The ash is drained of any free water before the truck leaves the Boiler House.

Normally **knots** from A, C, or D line go to a blower system, then to a chip silo and are finally re-cooked. In the event of problems in equipment like the blower system or the knot press, knots from either line can be sent directly to a dumpster. Knots are taken to a concrete “spill pad” by the No. 2 Green Liquor Tank before they can be taken to the landfill. Storm water runoff from all concrete pads and the dumpster area drains to sewers to the Wastewater Treatment Plant.

**Dregs** from the lime mud washing operations are dewatered on vacuum filters or centrifuges at the Mud Filter Building and discharged into dump trucks. Storm water runoff from the truck loading area drains to a sewer to the Wastewater Treatment Plant.

**Grits** from the lime slakers are discharged into a steel stationary roll-off container. The container is lined with sawdust prior to filling in order to absorb any free liquid present in the grits. Another option is to transport the grits to the dewatering slab and let dewater prior to transport to the landfill. Storm water runoff from the container area drains to a sewer to the Wastewater Treatment Plant.

Normally, these materials are hauled to the Woodyard on mill roads, across the low water bridge across the Jackson River, and up the access road to either No. 1, No. 3 or No. 5 Landfill. Storm water runoff from the roads along this route drains to the Wastewater Treatment Plant and to outfalls 006, 007, 008, and 009. An alternate route to the landfills follows the mill road between the Bates Building and the electrical motor storage building, around the Virginia Power substation, up to the fly ash settling basin area, around the west side of No. 2 Landfill, along the south side of No. 1 Landfill, across No. 1 Fly Ash Dam, and connecting to the access road to No. 3 Landfill. Storm water runoff from the roads along this secondary route drains to the Wastewater Treatment Plant; Coal Handling Facility's outfalls 001, 002, 003, 004, and 005; No. 2 Landfill; No. 1 Landfill; and outfalls 004, 009, and 010. Storm water runoff from the active landfill area drains to a collection pond and is then pumped to the Wastewater Treatment Plant. Storm water runoff from the upper access road in the active landfill area is diverted to the collection pond.

No materials disposed of in MeadWestvaco Landfills are allowed to contain any free liquids. Spills of any material being transported to the landfill are cleaned up as soon as practicable in order to minimize their exposure to storm water.

**Fly ash** collected by electrostatic precipitators on all of the coal and wood-fired boilers is slurried with water and pumped to one of two 600,000-gallon primary settling basins located near No. 2 Landfill. The overflow

(decanted water) from the primary basins drains to the Waste Treatment Plant. Should the decant line become plugged, decanted water from the primary settling basin will flow into a 400,000-gallon secondary settling basin. The overflow from the secondary basin drains to the Wastewater Treatment Plant. The settled fly ash is pumped from the primary settling basins, dewatered on belt filter presses, loaded into trucks by conveyor, hauled either to a staging area or No. 1 Landfill, on mill roads, and disposed of in the landfill. Spills of fly ash being transported to the landfill are cleaned up as soon as practicable in order to minimize their exposure to storm water. The fly ash and bottom ash slurry is pumped through aboveground pipelines from the precipitators to the primary settling basins. Storm water runoff from the area along these lines drains to the Wastewater Treatment Plant. A concrete wall diverts runoff from the area along the upper portion of the pipeline, from the coal conveyor tunnel up to the settling basins, to the Wastewater Treatment Plant and away from outfall 004.

Storm water runoff from the fly ash settling basin areas drains into the basins and ultimately flows to the Wastewater Treatment Plant. Storm water runoff from the area around the belt filter press building and the truck loading area drains to the settling basins and to No. 2 Landfill. The leachate collected from No. 2 Landfill drains to the Wastewater Treatment Plant. Storm water runoff from the access road from the truck loading area to No.1 Landfill drains to No. 2 Landfill, No. 1 Landfill, and outfall 010. Storm water runoff from the active fill area of No.1 Landfill is collected and drains to the Wastewater Treatment Plant.

**Lime mud** is dewatered on vacuum filters or centrifuges at the mud filter building. Then it is normally burned in the No. 2 Lime Kiln. Occasionally, however, the lime mud may be hauled to No. 2 Landfill on mill roads, and placed in the active fill area. In this case, the lime mud trucks would travel across the low water bridge across the Jackson River, up the access road to No. 3 Landfill, across No. 1 Fly Ash Dam, along the south side of No. 1 Landfill, and around the east side of No. 2 Landfill. Storm water runoff from the roads along this route drains to the Wastewater Treatment Plant, No. 1 Landfill, No. 2 Landfill, and outfalls 006, 007, 008, and 009. Storm water runoff from the truck loading area drains to a sewer to the Wastewater Treatment Plant. An alternate route is across the interplant bridge, through the tunnel along the Jackson River, up the road between the Bates Building and the electrical motor storage building, around the Virginia Power substation, up to the fly ash settling area, and around to No. 2 Landfill. Storm water runoff from the roads along this route drains to the Wastewater Treatment Plant, Coal Handling Facility's outfalls 001, 002, 003, 004, and 005, No. 2 Landfill, and outfall 004. The leachate collected from No. 2 Landfill drains to the Wastewater Treatment Plant. Storm water runoff from the active fill area of No. 1 Landfill is collected and drains to the Wastewater Treatment Plant. Spills of lime mud being transported to the landfill are cleaned up as soon as practicable in order to minimize their exposure to storm water.

**Water-based defoamer** is stored in an 8,000-gallon aboveground steel tank which has a concrete secondary containment dike. This tank is located adjacent to the No. 1 Secondary Clarifier Pump House and feeds metering pumps which add defoamer to the clarifier effluent. This tank is filled by a supplier delivery truck. Authorization to unload is given by the Waste Treatment Plant Foreman after the tank level is verified. Storm water runoff from the tank area drains to the Wastewater Treatment Plant and is discharged through permitted outfall 003.

**Bleached paperboard rolls** are loaded into and unloaded from trucks outdoors at the loading docks at the No. 1 Paper Machine Warehouse Building, paper storage building, and No. 2 Paper Machine Building. Storm water runoff from the loading dock areas on the east side of the No. 1 Paper Machine Warehouse Building and at the paper storage building drains to a sewer to the Wastewater Treatment Plant. Storm water runoff from the loading dock areas on the west side of the No. 1 Paper Machine Warehouse Building and at No. 2 Paper Machine Building drains to outfall 004.

Various types of **petroleum products** are stored in tanks outdoors at locations throughout the mill. All of these tanks are equipped with secondary containment. An effort has been made to locate these tanks in areas that drain to the Waste Treatment Plant and then to 003 outfall. However, some small tanks are located in areas where runoff would be directed to storm water outfalls. These tanks are inspected on a routine basis and adequate spill response materials are readily available in the event of a leak. A full description and treatment of all these tanks may be found in the SPCC Plan and the ODC Plan for this facility.



A flat bed truck with tote bins is used to haul used oil from pick-up points throughout the facility to the Recovery Fuel Oil Bulk Storage Tank. This truck is parked in a Wastewater Treatment Plant drainage area when not in use.

Motor-powered vehicles and equipment are operated throughout the facility in all of the storm water drainage areas. These vehicles and equipment carry motor oil, hydraulic oil, antifreeze/coolant, transmission fluid, grease, brake fluid, power steering fluid, and other fluids which could potentially be leaked or spilled. Any spills or leaks of these materials are cleaned up as soon as practicable in order to minimize their exposure to storm water. All of these vehicles and equipment are maintained by this facility's Maintenance Department, including preventive maintenance in order to minimize leaks of these materials.

A mixture of some or all of the following materials: **gravel and salt or other ice melting agents**, is stored outdoors in a pile located between the railroad tracks and the trailer parking lot to the west of the Nos. 1 and 2 Paper Machines Warehouse. Runoff from this area drains to the storm water sewer, is then pumped to the ground floor U-drain system of No. 2 Paper Machine and subsequently pumped to the Waste Treatment Plant. This material is covered with a plastic sheet until needed (per Part I. D. 8). A berm is positioned adjacent to the pile to provide secondary containment. This mixture is broadcast by a truck mounted spreader throughout the facility to melt snow and ice during the winter months. Salt and ice melt is also spread by hand onto paved areas and sidewalks throughout the facility.

**Black liquor leachate** is collected in a pit at the south side of the road across from No. 2 Paper Machine approximately two thirds of the way from the wet end of the machine. A sump pump in the collection pit pumps the black liquor leachate through a 3" diameter pipe that runs above ground along the creek toward the dry end of the machine. Then this line turns around and is located underground behind Nos. 1 and 2 Paper Machines. As it turns, it joins with a 16" diameter fly ash leachate line.

**Fly ash leachate** is collected at the fly ash landfill and flows by gravity to this point. An 8" line takes the black liquor leachate and the fly ash leachate behind the Nos. 1 and 2 Paper Machines, turns east and travels aboveground through the basement of No. 1 Paper Machine to the Spill Collection Tank at the Tank Farm by the northeast corner of the No. 1 Paper Machine. The portion of the line between the pump and the point, southwest corner of the machine, where the line goes aboveground offers a potential for spills of leachate going to Dunlap Creek. Storm water runoff from the area along the above ground leachate line drains to outfall 004 and to the Waste Treatment Plant.

**Stafor rosin** is unloaded from rail cars at the rosin rail car unloading station found north of the Nos. 1 & 2 Paper Machines Warehouse, between the warehouse and the CSX main line. A containment area has been provided to prevent the Stafor rosin from being discharged to the storm drain located west of the unloading station. Sewer lines under the unloading area direct any spill from a rail tank car to the spill containment area. This containment area has a total capacity of 42,000 gallons. This containment area is pumped to the mills sewer system as needed. Storm water run-off from the unloading station drains to outfall 004 and to the Waste Treatment Plant.

In 1999, a concrete sump was installed to prevent leaks and spills from entering Dunlap Creek. The sump is equipped with a concrete baffle wall, a pump, and level indicators. The system is designed to automatically route storm water to Dunlap Creek and non storm water to the Waste Treatment Plant. During non storm events, if the level reaches a certain point, the level alarm will turn the sump pump on. The pump will then pump the water to the No. 2 Paper Machine basement where it can then be sent to the Waste Treatment Plant. During storm events, the water will collect in the sump and eventually overflow the baffle wall and discharge into Dunlap Creek. A drawing of this system is included in Appendix G(Storm Water Plan).

All storm water runoff which drains to a sewer to the Wastewater Treatment Plant is treated along with the facility's process wastewater. For a description of the plant, see Appendix A(Storm Water Plan). The discharge from the plant through outfall 003 is authorized by VPDES Permit No. VA0003646 and subject to the limitations and conditions in the permit.

This includes storm water that is directed from the Carbon Plant to the Waste Treatment Plant through mill sewers. Process wastewater flows from the Carbon Plant are also authorized discharges through outfall 003 by VPDES Permit No. VA0003646 and subject to the limitations and conditions of the permit.

List of Material Stored that may be Exposed to Storm Water from Application

## Herbicides and Pesticides

The following non selective and selective herbicide formulations are used at the facility. All herbicides and pesticides are applied by licensed contractors. All the herbicides used are biodegradable. The herbicides are applied by hand spraying and high volume power spraying. Herbicides are applied at various sites within the mill and are applied typically at various times throughout the year.

Pesticides are used within the mill on an as needed basis. The herbicides and pesticides used and the active ingredients are as listed following:

<b><u>Herbicide</u></b>	<b><u>Active Ingredients</u></b>
CWC Blueprint Plus	Nonionic Polymeric Colorant (No Hazardous Components)
Diuron 80 DFMN	Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea]
Glyphomate 41 (Gly Pro Plus)	Glyphosate: N-(phosphonomethyl) glycine
Karmax DF, XP (using XP)	Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea]
Landmark II MP	Sulfometuron methyl {Methyl-2[[[(4,6-dimethyl-2-pyrimidinyl)amino]-carbonyl]amino]sulfonyl]benzoate,  Chlorosulfuron 2-Chloro-N-[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)aminocarbonyl]benzenesulfonamide
Ranger Pro (possible alt. to Razor Pro)	Glyphosphate, N,-(phosphonomethyl) glycine
Razor Pro	Glyphosphate, N,-(phosphonomethyl) glycine
Roundup Pro	Glyphosphate, N,-(phosphonomethyl) glycine

**Application Form 2F Data Summary**  
**Stormwater discharges**

**MeadWestvaco**  
**VA0003646**

**Outfall 003 (a.k.a. outfall 903)**

Area = 263.76 acres

(79.25 acres impervious; 30%)

	<b>Grab</b>		<b>Composite</b>		<b>Benchmark</b>
	<b><u>Conc.</u></b>	<b><u>Mass</u></b>	<b><u>Conc.</u></b>	<b><u>Mass</u></b>	<b><u>Conc.</u></b>
	<b>(mg/l)</b>	<b>(kg/day)</b>	<b>(mg/l)</b>	<b>(kg/day)</b>	<b>(mg/l)</b>
<b>Oil &amp; Grease</b>	< 5	< QL	NA	NA	15
<b>BOD<sub>5</sub></b>	9.5	94.6	20	199.1	30
<b>Chem Oxygen Demand</b>	190	1891.6	180	1792	100
<b>Total Suspended Solids</b>	13.2	131.4	21.6	215	100
<b>Nitrogen, total</b>	1.6	15.9	3.5	34.84	2.2
<b>Phosphorus, total</b>	2.0	19.9	0.4	3.98	2.0
<b>pH (su)</b>	7.3				6 - 9
<b>Total Kjeldal Nitrogen</b>	1.6	15.9	2.2	21.9	
<b>Nitrite &amp; Nitrate</b>	< 0.10	< QL	1.3	12.94	
<b>Orthophosphate</b>	0.07	0.7	0.14	1.39	
<b>Temperature (C°)</b>	31.8	31.8	NA	NA	
<b>Color (PCU)</b>	220	2190.2	220	2190.2	

**Outfall 004**

Area = 15.72 acres

(14.13 impervious)

	<b>Grab</b>		<b>Composite</b>		<b>Benchmark</b>
	<b><u>Conc.</u></b>	<b><u>Mass</u></b>	<b><u>Conc.</u></b>	<b><u>Mass</u></b>	<b><u>Conc.</u></b>
	<b>(mg/l)</b>	<b>(kg/day)</b>	<b>(mg/l)</b>	<b>(kg/day)</b>	<b>(mg/l)</b>
<b>Oil &amp; Grease</b>	< 5	<QL	NA	NA	15
<b>BOD<sub>5</sub></b>	9.8	18.5	7.6	14.4	30
<b>Chem Oxygen Demand</b>	55	103.9	55	103.9	100
<b>Total Suspended Solids</b>	1006	1900	358.7	677.7	100
<b>Nitrogen, total</b>	2.4	4.5	2.6	4.9	2.2
<b>Phosphorus, total</b>	< 0.2	<QL	< 0.2	<QL	2.0
<b>pH (su)</b>	8.41				6 - 9
<b>Total Kjeldal Nitrogen</b>	1.2	2.3	1.4	2.64	
<b>Nitrite &amp; Nitrate</b>	0.46	0.87	0.99	1.87	
<b>Orthophosphate</b>	< 0.10	<QL	<0.10	<QL	
<b>Temperature (C°)</b>	24.9	24.9	NA	NA	
<b>Color (PCU)</b>	110	207.8	130	245.6	

**Outfall 005**

Area = 19.72 acres

(5.85 impervious)

	<b>Grab</b>		<b>Composite</b>		<b>Benchmark</b>
	<b><u>Conc.</u></b>	<b><u>Mass</u></b>	<b><u>Conc.</u></b>	<b><u>Mass</u></b>	<b><u>Conc.</u></b>
	<b>(mg/l)</b>	<b>(kg/day)</b>	<b>(mg/l)</b>	<b>(kg/day)</b>	<b>(mg/l)</b>
<b>Oil &amp; Grease</b>	< 5	<QL	NA	NA	15
<b>BOD<sub>5</sub></b>	4.8	8.52	11.4	20.2	30
<b>Chem Oxygen Demand</b>	44	78.1	66	117.2	100
<b>Total Suspended Solids</b>	41	72.8	18.8	33.4	100
<b>Nitrogen, total</b>	2.4	4.26	1.6	2.84	2.2
<b>Phosphorus, total</b>	< 0.2	<QL	< 0.2	<QL	2.0
<b>pH (su)</b>	7.13				6 - 9
<b>Total Kjeldal Nitrogen</b>	1.1	1.95	0.9	1.6	
<b>Nitrite &amp; Nitrate</b>	1.3	2.3	0.71	1.26	
<b>Orthophosphate</b>	0.12	0.21	0.06	0.11	
<b>Temperature (C°)</b>	24.1	24.1	NA	NA	
<b>Color (PCU)</b>	100	177.5	87	154.5	

**Application Form 2F Data Summary**  
**Stormwater discharges**

**MeadWestvaco**  
**VA0003646**

**Outfall 006**

Area = 2.07 acres  
(0.40 impervious)

	<b>Grab</b>		<b>Composite</b>		<b>Benchmark</b>
	<u>Conc.</u>	<u>Mass</u>	<u>Conc.</u>	<u>Mass</u>	<u>Conc.</u>
	(mg/l)	(kg/day)	(mg/l)	(kg/day)	(mg/l)
<b>Oil &amp; Grease</b>	9.3	1.6	NA	NA	15
<b>BOD<sub>5</sub></b>	347	60.4	257	44.8	30
<b>Chem Oxygen Demand</b>	1010	175.9	680	118.4	100
<b>Total Suspended Solids</b>	420	73.1	139	24.2	100
<b>Nitrogen, total</b>	5.1	0.89	3.3	0.57	2.2
<b>Phosphorus, total</b>	0.88	0.15	0.75	0.13	2.0
<b>pH (su)</b>	6.29				6 - 9
<b>Total Kjeldal Nitrogen</b>	4.6	0.8	3.2	0.56	
<b>Nitrite &amp; Nitrate</b>	<0.10	<QL	<0.10	<QL	
<b>Orthophosphate</b>	0.31	0.05	0.4	0.07	
<b>Temperature (C°)</b>	26.2	26.2	NA	NA	
<b>Color (PCU)</b>	450	78.4	700	121.9	

**Outfall 007**

Area = 0.96 acres  
(0.46 impervious)

	<b>Grab</b>		<b>Composite</b>		<b>Benchmark</b>
	<u>Conc.</u>	<u>Mass</u>	<u>Conc.</u>	<u>Mass</u>	<u>Conc.</u>
	(mg/l)	(kg/day)	(mg/l)	(kg/day)	(mg/l)
<b>Oil &amp; Grease</b>	< 5	< QL	NA	NA	15
<b>BOD<sub>5</sub></b>	12.9	1.22	14	1.32	30
<b>Chem Oxygen Demand</b>	96	9.08	100	9.46	100
<b>Total Suspended Solids</b>	424	40.13	422.7	40	100
<b>Nitrogen, total</b>	2.3	0.22	2.5	0.24	2.2
<b>Phosphorus, total</b>	0.8	0.07	0.93	0.09	2.0
<b>pH (su)</b>	7.5				6 - 9
<b>Total Kjeldal Nitrogen</b>	1.7	0.16	1.9	0.18	
<b>Nitrite &amp; Nitrate</b>	0.48	0.05	0.43	0.04	
<b>Orthophosphate</b>	0.73	0.07	0.78	0.07	
<b>Temperature (C°)</b>	26.9	26.9	NA	NA	
<b>Color (PCU)</b>	160	15.1	160	15.1	

**Outfall 008**

Area = 6.24 acres  
(0.57 impervious)

	<b>Grab</b>		<b>Composite</b>		<b>Benchmark</b>
	<u>Conc.</u>	<u>Mass</u>	<u>Conc.</u>	<u>Mass</u>	<u>Conc.</u>
	(mg/l)	(kg/day)	(mg/l)	(kg/day)	(mg/l)
<b>Oil &amp; Grease</b>	< 5	< QL	NA	NA	15
<b>BOD<sub>5</sub></b>	12.9	6.45	14	7	30
<b>Chem Oxygen Demand</b>	96	47.97	100	49.97	100
<b>Total Suspended Solids</b>	424	211.9	422	211.2	100
<b>Nitrogen, total</b>	2.3	1.15	2.5	1.25	2.2
<b>Phosphorus, total</b>	0.8	0.39	0.93	0.46	2.0
<b>pH (su)</b>	7.5				6 - 9
<b>Total Kjeldal Nitrogen</b>	1.7	0.85	1.9	0.95	
<b>Nitrite &amp; Nitrate</b>	0.48	0.24	0.43	0.21	
<b>Orthophosphate</b>	0.73	0.36	0.78	0.39	
<b>Temperature (C°)</b>	26.9	26.9	NA	NA	
<b>Color (PCU)</b>	160	79.95	160	79.95	

Application Form 2F Data Summary  
Stormwater discharges

MeadWestvaco  
VA0003646

**Outfall 010**

Area = 399 acres  
(1.10 impervious)

	Grab		Composite	
	<u>Conc.</u> (mg/l)	<u>Mass</u> (kg/day)	<u>Conc.</u> (mg/l)	<u>Mass</u> (kg/day)
Oil & Grease	< 5	< QL	NA	NA
BOD <sub>5</sub>	12	360.7	12.9	387.7
Chem Oxygen Demand	230	3606.7	39	1172.2
Total Suspended Solids	4876	146554	676	20318
Nitrogen, total	8.8	264.5	7.8	234.4
Phosphorus, total	1.4	42.1	<0.50	<QL
pH (su)	6.9			
Total Kjeldal Nitrogen	6	180.3	4.6	138.3
Nitrite & Nitrate	1.8	54.1	2.91	87.5
Orthophosphate	<0.25	<QL	<0.10	<QL
Temperature (C°)	25.2	25.2	NA	NA
Color (PCU)	110	3306.2	94	2825.3

**Outfall 012**

Area = 5.60 acres  
(1.47 impervious)

	Grab		Composite	
	<u>Conc.</u> (mg/l)	<u>Mass</u> (kg/day)	<u>Conc.</u> (mg/l)	<u>Mass</u> (kg/day)
Oil & Grease	< 5	< QL	NA	NA
BOD <sub>5</sub>	9.1	4.48	3.8	1.87
Chem Oxygen Demand	47	23.1	37	18.2
Total Suspended Solids	93.6	46.1	0.8	0.39
Nitrogen, total	1.5	0.74	0.6	0.29
Phosphorus, total	<0.20	<QL	<0.20	<QL
pH (su)	7.2			
Total Kjeldal Nitrogen	0.7	0.34	0.6	0.29
Nitrite & Nitrate	0.77	0.38	0.88	0.43
Orthophosphate	0.15	0.07	0.15	0.07
Temperature (C°)	25.8	25.8	NA	NA
Color (PCU)	90	44.3	41	20.2

**Outfall 013**

Area = 6.82 acres  
(1.15 impervious)

	Grab		Composite		Benchmark
	<u>Conc.</u> (mg/l)	<u>Mass</u> (kg/day)	<u>Conc.</u> (mg/l)	<u>Mass</u> (kg/day)	<u>Conc.</u> (mg/l)
Oil & Grease	< 5	< QL	NA	NA	15
BOD <sub>5</sub>	10.4	5.9	5.9	3.35	30
Chem Oxygen Demand	64	36.34	33	18.74	100
Total Suspended Solids	281.2	159.7	28	15.9	100
Nitrogen, total	3.2	1.82	2.6	1.48	2.2
Phosphorus, total	0.5	0.27	0.28	0.16	2.0
pH (su)	7.0				6 - 9
Total Kjeldal Nitrogen	1.5	0.85	1.2	0.68	
Nitrite & Nitrate	1.5	0.85	1.4	0.79	
Orthophosphate	0.28	0.16	0.28	0.16	
Temperature (C°)	25.5	25.5	NA	NA	
Color (PCU)	90	51.1	66	37.48	

**Outfall 015**

Area = 0.44 acres  
(0.44 impervious)

	Grab		Composite		Benchmark
	<u>Conc.</u> (mg/l)	<u>Mass</u> (kg/day)	<u>Conc.</u> (mg/l)	<u>Mass</u> (kg/day)	<u>Conc.</u> (mg/l)
Oil & Grease	< 5	< QL	NA	NA	15
BOD <sub>5</sub>	6.6	0.35	8.1	0.43	30
Chem Oxygen Demand	40	2.12	46	2.44	100
Total Suspended Solids	144	7.63	15.2	0.81	100
Nitrogen, total	0.5	0.03	0.6	0.03	2.2
Phosphorus, total	<0.20	<QL	<0.20	<QL	2.0
pH (su)	7.4				6 - 9
Total Kjeldal Nitrogen	<0.5	<QL	<0.5	<QL	
Nitrite & Nitrate	0.47	0.02	0.45	0.02	
Orthophosphate	0.05	0.003	0.05	0.003	
Temperature (C°)	26	26	NA	NA	
Color (PCU)	17	0.9	15	0.79	

Application Form 2F Data Summary  
Stormwater discharges  
Outfalls 011, 012 + 015

**DMR Data Summary**  
**Stormwater discharges**

**MeadWestvaco**  
**VA0003646**

**Outfall 004**

Area = 15.72 acres (14.13 impervious)

	<b>Flow</b>	<b>BOD5</b>	<b>COD</b>	<b>TSS</b>	<b>Alum</b>	<b>Iron</b>	<b>Total Nitrogen</b>	<b>Total Phosphorus</b>
<b>DMR</b>	<b>Estimate</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>
<b><u>Due Date</u></b>	<b>(MG)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>
10-Mar-09	0.12	20.3	324	1416	9.2	17	2.5	0.6
10-Mar-10	0.25	5.4	26	140	2.4	2.9	1.2	<QL
10-Mar-11	0.39	18.5	120	846	11	20	3.5	0.6
10-Mar-12	0.5	9.8	55	1006	13	13	1.2	<0.20
<i>Benchmarks</i>	-	30	100	100	0.75	1.0	2.2	2.0

**Outfall 005**

Area = 19.72 acres (5.85 impervious)

	<b>Flow</b>	<b>BOD5</b>	<b>COD</b>	<b>TSS</b>	<b>Alum</b>	<b>Iron</b>	<b>Total Nitrogen</b>	<b>Total Phosphorus</b>
<b>DMR</b>	<b>Estimate</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>
<b><u>Due Date</u></b>	<b>(MG)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>
10-Mar-09	0.12	15.8	549	872	17	21	4.3	0.6
10-Mar-10	0.24	<QL	<QL	4.8	0.2	0.2	<QL	<QL
10-Mar-11	0.36	7.1	61	7.5	0.4	0.4	1	0.1
10-Mar-12	0.47	<QL	44	41	2.2	2	1.1	<QL
<i>Benchmarks</i>	-	30	100	100	0.75	1.0	2.2	2.0

**Outfall 006**

Area = 2.07 acres (0.40 impervious)

	<b>Flow</b>	<b>BOD5</b>	<b>COD</b>	<b>TSS</b>	<b>Alum</b>	<b>Iron</b>	<b>Total Nitrogen</b>	<b>Total Phosphorus</b>
<b>DMR</b>	<b>Estimate</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>
<b><u>Due Date</u></b>	<b>(MG)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>
10-Mar-09	0.076	44.9	552	1360	17	36	7.3	3.3
10-Mar-10	0.03	>58.3	1500	1590	37	46	9.7	2.2
10-Mar-11	0.023	>81.1	1400	490	7.9	12	9.9	1.4
10-Mar-12	0.02	347	1010	420	4.9	4.9	4.6	0.9
<i>Benchmarks</i>	-	30	100	100	0.75	1.0	2.2	2.0

**Outfall 007**

Area = 0.96 acres (0.46 impervious)

	<b>Flow</b>	<b>BOD5</b>	<b>COD</b>	<b>TSS</b>	<b>Alum</b>	<b>Iron</b>	<b>Total Nitrogen</b>	<b>Total Phosphorus</b>
<b>DMR</b>	<b>Estimate</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>	<b>Conc.</b>
<b><u>Due Date</u></b>	<b>(MG)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>	<b>(mg/l)</b>
10-Mar-09	0.01	24.9	474	2100	27	56	7.5	3.7
10-Mar-10	0.01	41.5	230	796	22	30	6.7	3.5
10-Mar-11	0.02	36.6	330	1552	28	49	8	0.6
10-Mar-12	0.03	12.9	96	424	15	14	1.7	0.8
<i>Benchmarks</i>	-	30	100	100	0.75	1.0	2.2	2.0

**DMR Data Summary**  
**Stormwater discharges**  
**Outfalls 004, 005, 006 + 007**

**DMR Data Summary**  
**Stormwater discharges**

**MeadWestvaco**  
**VA0003646**

**Outfall 008**

Area = 6.24 acres (0.57 impervious)

	<b>Flow</b>	<b>BOD5</b>	<b>COD</b>	<b>TSS</b>	<b>Alum</b>	<b>Iron</b>	<b>Total Nitrogen</b>	<b>Total Phosphorus</b>
<b>DMR</b>	<b><u>Estimate</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>
<b><u>Due Date</u></b>	(MG)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
10-Mar-09	0.03	24.1	449	2088	26	53	7.1	3.6
10-Mar-10	0.07	48.9	220	760	17	23	7.2	3.5
10-Mar-11	0.1	40.9	400	1884	34	57	9.9	0.9
10-Mar-12	0.13	12.9	96	424	15	14	1.7	0.8
<i>Benchmarks</i>	-	30	100	100	0.75	1.0	2.2	2.0

**Outfall 010**

Area = 399 acres (1.10 impervious)

	<b>Flow</b>	<b>BOD5</b>	<b>COD</b>	<b>TSS</b>	<b>Alum</b>	<b>Iron</b>	<b>Total Nitrogen</b>	<b>Total Phosphorus</b>
<b>DMR</b>	<b><u>Estimate</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>
<b><u>Due Date</u></b>	(MG)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
10-Mar-09	1.89	45.8	48	83	1.2	5.1	10.2	0.2
10-Mar-10	4.04	7.1	<QL	34	0.9	1.3	1.9	0.1
10-Mar-11	6.12	7.2	29	603	9.8	18	2.3	0.7
10-Mar-12	7.95	12	120	4876	89	119	6	1.4
<i>Benchmarks</i>	-	30	100	100	0.75	1.0	2.2	2.0

**Outfall 012**

Area = 5.60 acres (1.47 impervious)

	<b>Flow</b>	<b>BOD5</b>	<b>COD</b>	<b>TSS</b>	<b>Alum</b>	<b>Iron</b>	<b>Total Nitrogen</b>	<b>Total Phosphorus</b>
<b>DMR</b>	<b><u>Estimate</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>
<b><u>Due Date</u></b>	(MG)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
10-Mar-09	0.03	18.8	383	452	5.5	10	3.4	0.6
10-Mar-10	0.07	<QL	<QL	14.4	0.2	1	<QL	0.2
10-Mar-11	0.1	9.2	63	19	0.7	1.5	1.3	0.2
10-Mar-12	0.13	9.1	47	93.6	1.5	1.4	0.7	<0.20
<i>Benchmarks</i>	-	30	100	100	0.75	1.0	2.2	2.0

**Outfall 015**

Area = 0.44 acres (0.44 impervious)

	<b>Flow</b>	<b>BOD5</b>	<b>COD</b>	<b>TSS</b>	<b>Alum</b>	<b>Iron</b>	<b>Total Nitrogen</b>	<b>Total Phosphorus</b>
<b>DMR</b>	<b><u>Estimate</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>	<b><u>Conc.</u></b>
<b><u>Due Date</u></b>	(MG)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
10-Mar-09	0.01	10	157	268	5.1	8.8	2.4	0.5
10-Mar-10	0.01	13.2	75	148	5.7	5.2	1	<QL
10-Mar-11	0.01	11.2	78	188	2	3.5	<1.0	0.2
10-Mar-12	0.02	6.6	40	144	1	1.3	<QL	<0.20
<i>Benchmarks</i>	-	30	100	100	0.75	1.0	2.2	2.0

**DMR Data Summary**  
**Stormwater discharges**  
**Outfalls 008, 010, 012 + 015**

**BENCHMARK Monitoring Values from 2009 FACT SHEET**  
**Reissuance of General VPDES Permit for Industrial Activity Storm Water Discharges**

TABLE 4. BENCHMARK MONITORING CONCENTRATION VALUES		
Effluent Parameter	Benchmark Concentration	Source
Biochemical Oxygen Demand (5 day)	30 mg/L	1
pH	within the range 6.0-9.0 s.u.	1
Total Suspended Solids	100 mg/L	2
Total Kjeldahl Nitrogen	1.5 mg/L	2
Total Nitrogen	2.2 mg/L	2
Total Organic Carbon	110 mg/L	3
Total Phosphorus	2 mg/L	4
Aluminum	750 µg/L	5
Arsenic	50 µg/L	6
Chromium	16 µg/L	6
Copper	18 µg/L	6
Cyanide	22 µg/L	6
Iron	1.0 mg/L	5
Lead	120 µg/L	6
Zinc	120 µg/L	6

Note: Metals are to be analyzed as total recoverable.

Sources used by DEQ to establish analytical monitoring benchmark concentration values:

1. Secondary Treatment Regulations (40 CFR 133)
2. National Urban Runoff Program (NURP) median concentration
3. Median concentration of Storm Water Effluent Limitation Guideline (40 CFR Part 419)
4. Virginia policy for Nutrient Enriched Waters, 9 VAC 25-40-10 et seq.
5. "EPA Recommended Ambient Water Quality Criteria." Aquatic Life Freshwater
6. Virginia Water Quality Standards, 9 VAC 25-260-140

TABLE 3. PARAMETER BENCHMARK VALUES		
Parameter Name	Benchmark Level	Source
Biochemical Oxygen Demand (5 day)	30 mg/L	5
Chemical Oxygen Demand	120 mg/L	6
Total Suspended Solids	100 mg/L	8
Nitrate + Nitrite Nitrogen	0.68 mg/L	8
Total Phosphorus	2.0 mg/L	7
pH	6.0-9.0 s.u.	5
Total Kjeldahl Nitrogen (added by DEQ)	1.5 mg/L	8
Total Nitrogen (added by DEQ)	2.2 mg/L	8

Sources

5. Secondary Treatment Regulations (40 CFR 133)
6. Factor of 4 times BOD<sub>5</sub> concentration - North Carolina benchmark
7. North Carolina storm water benchmark derived from NC Water Quality Standards
8. National Urban Runoff Program (NURP) median concentration

Assumptions:

Receiving water temperature - 20 C,  
 Receiving water pH - 7.8  
 Receiving water hardness CaCO<sub>3</sub> - 100 mg/L  
 Receiving water salinity - 20 g/kg  
 Acute to Chronic Ratio (ACR) - 10



## **Sectors Applicability General VPDES Permit Stormwater Associated with Industrial Activity**

### **Sector B - Paper and Allied Products Manufacturing.**

Discharges Covered Under This Section. The requirements listed under this section apply to storm water discharges associated with industrial activity from facilities generally classified under SIC Major Group 26 that are engaged in the following activities: the manufacture of pulps from wood and other cellulose fibers and from rags; the manufacture of paper and paperboard into converted products, such as paper coated off the paper machine, paper bags, paper boxes and envelopes; and the manufacture of bags of plastic film and sheet.

- (1) **Effluent Limitations.** ..... None
- (2) **Analytical (Benchmark) Monitoring.**  
Paperboard Mills (SIC 2631) ..... BOD<sub>5</sub>
- (3) **Part I G 4.** Sector-Specific Storm Water Pollution Prevention Plan Requirements      None

### **Sector C - Chemical and Allied Products Manufacturing.**

Discharges Covered Under This Section. The requirements listed under this section apply to storm water discharges associated with industrial activity from facilities engaged in manufacturing the following products and generally described by the SIC code shown: Basic industrial inorganic chemicals (including SIC Code 281)

- (1) **Effluent Limitations.** ..... None
- (2) **Analytical (Benchmark) Monitoring.**  
Industrial Inorganic Chemicals (SIC 2812-2819) ..... Al, Fe, Total N
- (3) **Non-Storm Water Discharges.** The following discharges are not "authorized" non-storm water discharges under this section, and if present, may require additional controls and/or limitations: inks, paints, or substances (hazardous, non-hazardous, etc.) resulting from an on-site spill, including materials collected in drip pans; washwaters from material handling and processing areas; or washwaters from drum, tank, or container rinsing and cleaning.
- (4) **Part I G 4.** Sector-Specific Storm Water Pollution Prevention Plan Requirements  
In addition to the requirements of **Part I G 3**, the SWPPP includes, the requirements of the GP wording

### **Sector L - Landfills, Land Application Sites and Open Dumps.**

Discharges Covered Under This Section. The requirements listed under this section apply to *storm water discharges associated with industrial activity from waste disposal at landfills*, land application sites, and open dumps *that receive or have received industrial wastes*, including sites subject to regulation under Subtitle D of RCRA. Open dumps are solid waste disposal units that are not in compliance with state/federal criteria established under RCRA Subtitle D. Landfills, land application sites, and open dumps that have storm water discharges from other types of industrial activities such as vehicle maintenance, truck washing, and/or recycling may be subject to additional requirements specified elsewhere in this permit.

- (1) **Effluent Limitations.** ..... None (for the applicable sub-sector)
- (2) **Analytical (Benchmark) Monitoring.**  
Landfills, Land Application Sites and Open Dumps, except MSWLF areas closed in ..... Fe  
accordance with the requirements of the Virginia Solid Waste Management  
Regulation, 9 VAC 20-80
- (3) **Non-Storm Water Discharges.** The following discharges are not "authorized" non-storm water discharges under this section, and if present, may require additional controls and/or limitations: leachate, gas collection condensate, drained free liquids, contaminated ground water, laboratory-derived wastewater and contact washwater from washing truck and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.
- (4) **Part I G 4.** Sector-Specific Storm Water Pollution Prevention Plan Requirements  
In addition to the requirements of **Part I G 3**, the SWPPP includes, the requirements of the GP wording

### **Sector O - Steam Electric Generating Facilities.**

Discharges Covered Under This Section. The requirements listed under this section apply to storm water discharges associated with industrial activity from steam electric power generating facilities (SIC 4911 in part) using coal, natural gas, oil, nuclear energy, etc. to produce a steam source, including coal handling areas. Storm water discharges from coal pile runoff subject to numeric effluent limitations are eligible for coverage under this permit, but are subject to the limitations established by **Part I A**. Storm water discharges from ancillary facilities (e.g., fleet centers, gas turbine stations, and substations) that are not contiguous to a steam electric power generating facility are not covered by this permit. Heat capture/heat recovery combined cycle generation facilities are also not covered by this permit; however, dual fuel co-generation facilities that generate electric power are included.

- (1) **Effluent Limitations.** Applicable to Coal Pile Runoff only. Not applicable
- (2) **Analytical (Benchmark) Monitoring.**  
Steam Electric Generating Facilities (SIC 4911 in part) ..... Fe
- (3) **Non-Storm Water Discharges.** Non-storm water discharges subject to effluent limitation guidelines are not covered under this section, and if present, may require additional controls and/or limitations.
- (4) **Part I G 4.** Sector-Specific Storm Water Pollution Prevention Plan Requirements  
In addition to the requirements of **Part I G 3**, the SWPPP includes, the requirements of the GP wording

### **Other Sectors considered from the Industrial SW GP:**

**Coal pile runoff.** Means the rainfall runoff from or through any coal storage pile. Facilities subject to coal pile runoff monitoring. Facilities with discharges of storm water from coal storage piles shall comply with the limitations and monitoring requirements (of Table 70-3 of the VPDES Ind. SW GP) for all discharges containing the coal pile runoff, regardless of the facility's sector of industrial activity.

**Sector A – Timber Products.** Discharges Covered Under This Section. The requirements listed under this section apply to storm water discharges associated with industrial activity from facilities generally classified under Standard Industrial Classification (SIC) Major Group 24 that are engaged in the following activities: cutting timber and pulpwood (those that have log storage or handling areas), mills, including merchant, lath, shingle, cooperage stock, planing, plywood and veneer, and producing lumber and wood materials; wood preserving, manufacturing wood buildings or mobile homes; and manufacturing finished articles made entirely of wood or related materials, except for wood kitchen cabinet manufacturers (SIC Code 2434), which are addressed under Sector W (Furniture and Fixtures).

**Sector E - Glass, Clay, Cement, Concrete, and Gypsum Products.** Discharges Covered Under This Section. The requirements listed under this section apply to storm water discharges associated with industrial activity from facilities generally classified under SIC Major Group 32 that are engaged in either manufacturing the following products or performing the following activities: flat, pressed, or blown glass or glass containers; hydraulic cement; clay products including tile and brick; pottery and porcelain electrical supplies; concrete products; gypsum products; non-clay refractories; minerals and earths, ground or otherwise treated; lime manufacturing; cut stone and stone products; asbestos products; and mineral wool and mineral wool insulation products.

**Sector P - Land Transportation and Warehousing.** Discharges Covered Under This Section. The requirements listed under this section apply to storm water discharges associated with industrial activity from ground transportation facilities and rail transportation facilities (generally identified by SIC Codes 40, 41, 42, 43, and 5171), that have vehicle and equipment maintenance shops (vehicle and equipment rehabilitation, mechanical repairs, painting, fueling and lubrication) and/or equipment cleaning operations. Also covered under this section are facilities found under SIC Codes 4221 through 4225 (public warehousing and storage) that do not have vehicle and equipment maintenance shops and/or equipment cleaning operations.

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